Amendments to the Specification

Please amend the Background of the Invention section on page 4, paragraph [0009] as noted below.

[0009] U.S. Pat. Nos. 4,474,657, 4,518,471 and 4,525,249 to Arora disclose the etching of aluminum electrolytic capacitor foil by passing the foil through an electrolyte bath. The preferred bath contains 3% hydrochloric acid and 1% aluminum as aluminum chloride. The etching is carried out under a direct current (DC) and at a temperature of ~~75EC~~ 75°C. U.S. Patent No. 4,518,471 adds a second step where the etched foil is treated in a similar bath with a lower current density and at a temperature of ~~80-82.5EC~~ 80-82.5°C. U.S. Patent No. 4,525,249 adds a different second step, where the etched foil is treated in a bath of 8% nitric acid and 2.6% aluminum as a nitrate, at a temperature of ~~85EC~~85°C.

Please amend the Description of Drawings/Figures section on page 7 to include the following new paragraph [0022.1] after paragraph [0022].

[0022.1] FIG. 5 is a flow chart describing a method of producing a foil according to an embodiment of the present invention.

Please amend the Detailed Description of the Invention section on page 7, paragraph [0023] as noted below.

[0023] A first embodiment of the invention, as depicted in FIG. 5, is directed to a method 500 of producing an electrode for a capacitor from a foil. The method comprises coating the foil surface with a photoresist 502, applying a holographic image to the photoresist 504 and developing the photoresist in the image, removing a portion of the photoresist to expose a portion of the foil and create a pattern of photoresist on the foil 506, and etching the foil 508. The foil is optionally further processed in widening and forming steps.

Please amend paragraphs [0039]-[0043] of the Detailed Description of the Invention section beginning on page 13 as noted below.

[0039] The foil is optionally further processed in a widening step. Foils are widened in a chloride or nitrate containing electrolyte solution known to those skilled in the art, such as that disclosed in U.S. Patent Nos. 3,779,877 and 4,525,249, which are incorporated herein by reference. The foil is then dipped into a deionized water bath at a temperature of ~~80EC to 100EC~~ 80°C to 100°C, preferably ~~95EC~~ 95°C, to form a hydrate on the foil surface.

[0040] Next, the foils are optionally further processed in a forming solution. A barrier oxide layer is electrochemically formed onto one or both surfaces of the metal foil, sufficiently thick to support the intended use voltage. The foil is placed into a forming solution, including but not restricted to a solution based on azelaic acid, sebacic acid, suberic acid, adipic acid, dodecanedioic acid, citric acid or other related organic acids and salts. Preferably a citric acid is used solution at a temperature of about ~~80EC to 100EC~~ 80°C to 100°C, preferably ~~85EC~~ 85°C, at a current density of about 1 mA/cm^2 to

40 mA/cm^2, preferably 16 mA/cm^2. A formation voltage of about 50 to 800 Volts, preferably 445 V, can be applied to the foil to form the barrier oxide layer. The barrier oxide layer provides a high resistance to current passing between the electrolyte and the metal foils, also referred to as the leakage current. A high leakage current can result in poor performance and reliability of an electrolytic capacitor. In particular, a high leakage current results in a greater amount of charge leaking out of the capacitor once it has been charged.

[0041] A heat treatment of about ~~500EC ± 20EC~~ 500°C ± 20°C may be applied to the foil following formation for about 1 to about 10 minutes, preferably about 4 minutes. The foil is then returned to the forming solution and allowed to soak with no applied potential for about 1 to about 10 minutes, preferably about 2 minutes. A second formation in the same electrolytic forming solution at high temperature is performed at a potential of about 435 Volts.

[0042] Next, the foils are dipped in a suitable low concentration oxide-dissolving acid solution including but not restricted to phosphoric acid, formic acid, acetic acid, citric acid, oxalic acid, and acids of the halides. Preferably phosphoric acid is used at a concentration of about 1 % to 10 %, preferably a concentration of about 2 %, at a temperature of about ~~60EC to 90EC~~ 60°C to 90°C, preferably about ~~70EC~~ 70°C, for an time of about one to about ten minutes, preferably about four minutes.

[0043] Finally, the foils are reformed at a voltage of about 435 Volts in a suitable forming solution, as discussed above, at a high temperature, preferably about ~~80EC~~ 80°C to about ~~100EC~~ 100°C, more preferably about ~~85EC~~ 85°C.